

LBJ National Historic Park Geologic Scoping Notes  
May 15, 2003

Note: See attendees on agenda list below  
See agenda listed below  
Note that the NPS code is LYJO, not LBJO

On May 15, 2003 GRD staff (Heise, Poole) met with LYJO staff and outside experts to conduct a Geologic Resource Inventory Scoping meeting for the park. This meeting was primarily set up to discuss proposed new soil maps through NCRS and a contracted geomorphic map prepared by Dr. Lee Cordt at Baylor University. The geologic component was an ancillary discussion, we had a total of about 45 minutes to talk.

Geologic Map Status (this is even sketchier, it was Anne's first scoping meeting and I didn't do a very good job making our roles clear. When she left I asked if she had any notes from it, she said no. It is a moot point, the map is complete).

There are nine quadrangles of interest:  
Fredericksburg West, Fredericksburg East, Cave Creek School, Rocky Creek, Johnson City, Oak Crest Park, Cain City, Stonewall, and Hye.

Five of these quads, Cave Creek School, Rocky Creek, Johnson, Stonewall, and Hye exist as 1:24,000 geologic quadrangles mapped by Virgil Barnes, apparently a geologist of some renown in central Texas. The Texas Bureau of Economic Geology participants indicated that these maps, while old, are scientifically sound and would require only edge matching and an updated stratigraphic name and/or geologic unit names to reconcile with later mapping work done south of the park. All of the maps are bedrock maps produced by TBEG as part of a Texas transportation corridor study. Also available are three quads to the east; Pedernales Falls, Monument, and Yeager Creek. None of these, however, were considered quads of interest by the park. None of these maps exist in digital format, and some are on a planimetric base that will need to be registered or rubber-sheeted.

The park decided that the four quads of interest to the west; Fredericksburg West, Fredericksburg East, Oak Crest Park, and Cain City were not needed for their resource management.

The final decision on which maps to provide as part of the Inventory: we would digitize the Cave Creek School, Rocky Creek, Johnson, Stonewall, and Hye quadrangles internally. We would provide ½ pay period to TBEG's Eddie Collins to revamp the stratigraphic nomenclature (language in Task Order: Lyndon B. Johnson National Historic Park: The NPS will develop a digital geologic map of the LBJ National Historic Park based on 4 quadrangle maps published by the Bureau of Economic Geology in 1952 (1:31,680, planimetric base) and 5 quadrangles published between 1963 and 1966 (1:24,000, topographic base) based on field mapping by Dr. Virgil Barnes between 1939 and 1948. Stratigraphic nomenclature and subdivisions of many of the units have changed significantly since the original mapping, and these need to be updated to modern

usage. Using the funding (\$2,500) provided by this contract, the Bureau will provide an updated composite stratigraphic column correlated to the map units so that the NPS digital map will include the currently accepted stratigraphic nomenclature and subdivisions. Bureau staff will be available to answer questions or provide guidance to NPS.)

TBEG completed their revision and provided it to the GRD in 2004, to date it has not been incorporated into the help files of the completed geologic map.

This completed the discussion on geologic map coverage of LYJO.

Other topics of discussion:

Dr. Lee Nordt, from Baylor University, has been contracted by the park to produce a geomorphic map of the park to be used for an archeological study. Nine trenches, produced by using a back-hoe (significant excavations) will be dug as part of the geomorphic map. The map would also show the relationship and relative ages of the stream terraces which in turn could be used to predict higher potential for archeological sites. The park is particularly interested in 12,000 year bp lithic fragments that would possibly indicate a quarry site. Near Fredericksburg to the west, there is a nine meter thick alluvial terrace that might be cored as part of this same study. The park also hopes the geomorph map would give an indication of the alluvial fill to bedrock along the Pedernales Creek bottom.

The park was also very interested in a soil survey. Pete Biggam was originally scheduled to participate but was unable to, so the soil map discussion was incidental. Essentially, the park wants to tie the soils map to the geologic map, the geomorphic map, the veg map, and the cultural site maps for a comprehensive GIS of the area to investigate how the soils relate to the landscape. Again, this is all focused on more detailed archeological studies.

#### Park Physical Resource Concerns

This was a very limited discussion, but the following were identified as concerns:

- Loss of pastureland along river
- Water supply and hydrology
- Sediment loading in river behind three dams that created ponds that LBJ used to drive his amphi-car into to scare visiting dignitaries
- Nitrates in water
- Spring locations
- Restoration of prairie plants and soils
- Ground Water Data

The meeting then moved into the park itself. There was one bedrock outcrop found in the park in the stream bottom. It was Cretaceous sandstone lying unconformably on Precambrian crystalline rocks.

#### **Lyndon B. Johnson National Historic Park Scoping Meetings**

When: May 15, 2003

Where: Headquarters Building  
Lyndon B. Johnson NHP  
100 Ladybird Lane  
Johnson City, TX 78636

Contact: Brian Carey or Wendy Lott  
(830) 868-7128 ext. 232 or 236

Purpose: Site visit for Geomorphic Investigation contract  
Geologic Resources Inventory presentation  
NPS Soil Inventory presentation

Attendees: Sue Eininger, NPS IMR Cultural Resources Programs - Archeology  
Bruce Heise, NPS Geologic Resources Division  
Anne Poole, NPS Geologic Resources Division  
Pete Biggam, NPS Natural Resources Information Division  
Wendy Lott, NPS LYJO Historian  
Brian Carey, NPS LYJO Chief, Resources Management and Visitor

#### **Protection**

Dr. Lee C. Nordt, Baylor University  
Other LYJO staff invited  
Jay Raney, Texas Bureau of Economic Geology  
Eddie Collins, Texas Bureau of Economic Geology

Schedule:	8:00 AM	Presentation on Geologic Resources Inventory
	8:30 AM	Presentation on NPS Soil Inventory
	9:00 AM	Discuss NPS goals for Geomorphic Investigation amongst NPS personnel
	9:15 AM	Dr. Nordt meet with Marsha Wagner re: contract
	9:30 AM	Break
	9:45 AM	Review of Geomorphic Investigation Scope of Work with Dr. Nordt
	10:15 AM	Scout park

Lunch and end of park visit are variable - some folks need leave by 1:00 PM to travel to Austin.